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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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JOHN E. CURTIN, ESQ.  
TROUTMAN SANDERS LLP  
1660 INTRENATIONAL DRIVE, SUITE 600  
McLEAN, VA 22102

EXAMINER

BOUTAH, ALINA A

ART UNIT PAPER NUMBER

2143

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/535,206	KODIALAM ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Alina N Boutah	2143	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
    If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
    a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
    1. ☐ Certified copies of the priority documents have been received.  
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
    \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
    a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____.  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____.                                   |

## **DETAILED ACTION**

### ***Specification***

The specification is objected to because it fails to show detail description of figure 6. A proposed correction is required in reply to the Office action to avoid abandonment of the application. The objection to the specification will not be held in abeyance

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1 and 5 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claim 1, Applicant fails to clearly describe the distribution of information to nodes in the network as well as identifying potential active links and backup links in the specification. In claim 5, Applicant fails to describe the selection of backup links to form backup path in the specification.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-10 are rejected under 35 U.S.C. 102(b) as being anticipated by *Design of a Fast Restoration Mechanism for Virtual Path-Based ATM Networks*, a paper written by Chao-Ju Hou.

Regarding claim 1, Hou teaches a method of establishing restorable paths in an information network in response to arriving traffic requests, the networking having a number of nodes and links between corresponding pairs of nodes, comprising:

receiving requests at a first node of the network for transmission of traffic to a second node of the network, wherein a given request specifies a desired transmission bandwidth for an active path and a backup path to be established between the first and the second nodes (Abstract; Introduction, 2<sup>nd</sup> – 3<sup>rd</sup> paragraph; Preliminaries, 1<sup>st</sup> – 2<sup>nd</sup> paragraph);

distributing information to nodes in the network concerning (a) total bandwidth reserved by each link in the network for all active paths currently defined in the network, and (b) total bandwidth reserved by each link in the network for all backup paths currently defined in the network (Preliminaries, 1<sup>st</sup> – 4<sup>th</sup> paragraph);

identifying potential active links in the network an active path in response to a given request, wherein the potential active links each have an available bandwidth at least equal to the bandwidth specified by the given request (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs);

identifying potential backup links in the network for a backup path for restoring the active path, wherein the potential back links each have an available bandwidth at least equal to

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the desired transmission bandwidth specified by the given request (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs); and

formulating an active and a backup path for each given request from among the potential active links and the potential backup links identified in response to the given request (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs, and Restoration of Failed Primary VPs).

Regarding claim 2, Hou teaches the method of claim 1, including determining the available bandwidth of a potential backup link having a certain total bandwidth capacity, by subtracting from the total bandwidth capacity (a) the total bandwidth reserved by the link for all current active paths through the link, and (b) the total bandwidth reserved by the link for all currently backup paths through the link (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs, Problem 1).

Regarding claim 3, Hou teaches the method of claim 1, including defining each backup path in the network to be link disjoint from its corresponding active path (Overview of Proposed Fast Restoration Mechanism, Problem 1).

Regarding claim 4, Hou teaches the method of claim 1, including defining each backup path in the network to be node disjoint from its corresponding active path (Overview of Proposed Fast Restoration Mechanism, Problem 1).

Regarding claim 5, Hou teaches a method of establishing restorable paths in an information network in response to arriving traffic requests, the network having a number of nodes and links between corresponding pairs of nodes, comprising:

receiving requests at a first node of the network for transmission of traffic to a second node of the network, wherein a given request specifies a desired transmission bandwidth for an active path a backup path to be established between the first and the second nodes (Abstract; Introduction, 2<sup>nd</sup> – 3<sup>rd</sup> paragraph; Preliminaries, 1<sup>st</sup> – 2<sup>nd</sup> paragraph);

selecting active links in the network to form the active path in response to a given request, wherein the active links each have an available bandwidth corresponding to the bandwidth specified by the given request (Preliminaries, 1<sup>st</sup> – 4<sup>th</sup> paragraph); and

selecting backup links in the network to form the backup path for restoring the formed active path, by using a maximum total bandwidth reservation among the active links selected to form the active path to determine a required bandwidth reservation for each backup link selected to form the backup path (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs).

Regarding claim 6, Hou teaches the method of claim 5, including distributing information to nodes in the network concerning (a) total bandwidth reserved by each link in the network for all active paths currently formed in the network, and (b) total bandwidth reserved by each link in the network for all backup paths currently formed in the network.

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Regarding claim 7, Hou teaches the method of claim 5, including determining if each potential backup link for the backup path to be formed is capable of accommodating the required bandwidth reservation for the active path to selecting the potential backup link (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs, Problem 1).

Regarding claim 8, Hou teaches the method of claim 7, wherein said determining step includes comparing the total bandwidth reserved by each potential backup link for all currently backup paths in the network, with the required bandwidth reservation for the backup path to be formed (Overview of Proposed Fast Restoration Mechanism, Establishment of Backup VPs, Problem 1).

Regarding claim 9, Hou teaches the method of claim 5, including defining each backup path in the network to be link disjoint from its corresponding active path (Overview of Proposed Fast Restoration Mechanism, Problem 1).

Regarding claim 10, Hou teaches the method of claim 5, including defining each backup path in the network to be node disjoint from its corresponding active path (Overview of Proposed Fast Restoration Mechanism, Problem 1).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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1. USPN 5,065,399 issued to Hasegawa et al..
2. USPN 6,021,113 issued to Doshi et al.
3. USPN 5,856,981 issued to Voelker, John Alvan
4. USPN 5,495,471 issued to Chow et al.
5. H. Hwang, K. Kim, Y. Choi, S. Ahn, and C. S. Kim. "Virtual Backup Network for Broadband Network Restoration." IEEE. 1998. Pages 1129-1133.
6. K. H. Lee, Y. H. Choi, J. Y. Lee and S.B. Lee. "QoS Restoration using a Disjoint Path Group in ATM Networks." IEEE.
7. M. Eom, and C. Kim. "A Restoration Mechanism for Virtual Path-Based ATM Networks." IEEE. Pages 1- 4.\
8. W. Gao, S. Chang, and C. Chang. "Design of Self-Healing Algorithm for ATM Networks." IEEE. 1998. Pages 2-7.
9. R. A. Guerin, A. Orda, and D. Williams. "QoS Routing Mechanism and OSPF Extensions." IEEE.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alina N Boutah whose telephone number is (703) 305-5104. The examiner can normally be reached on Monday-Friday (8:30 am-5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Wiley can be reached on (703) 308-5221. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-9112 for regular communications and (703) 305-3718 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

*ANB*

ANB

January 10, 2003



**DAVID WILEY**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2100**